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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/077,302	02/15/2002	Man-Wing Tang	104561	5563

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EXAMINER

COLE, ELIZABETH M

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 08/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/077,302	TANG ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Elizabeth M. Cole	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 May 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 and 11-20 is/are pending in the application.
- 4a) Of the above claim(s) 19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-18 and 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

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1. Claims 1-9, 11-18, 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not clear how a single sheet of material can be a “uniform adsorbent sheet” and have an “asymmetric structure”. The claims previously recited that the uniform adsorbent sheet had an asymmetric structure, (previous claim 10), but since the sheet could comprise more than one layer this did not raise 112 2<sup>nd</sup> problems. However, the limitation that a single sheet is both uniform and asymmetric renders the claims indefinite.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-9, 12-14, 16-17, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ram et al, U.S. Patent No. 5,846,696 in view of Shih et al, U.S. Patent No. 4,543,432.

Ram et al discloses an adsorbent material comprising a zeolite which is held in a polymeric matrix. The polymer may comprise polyolefins which are inherently hydrophobic. The zeolite may comprise conventional zeolites. Ram discloses a method of using the adsorbent material to remove contaminants and water vapor from an enclosed space, including spaces which comprise a high relative humidity. See col. 2, lines 27-col. 3, line 17; col. 4, lines 7-57; col. 5, lines 13-col. 6, line 61.

4. Ram et al differs from the claimed invention because Ram et al does not disclose the percent of organic contaminants which are removed from the gas and that the enclosed space is

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defined by a housing surrounding a disk drive. With regard to the percent of organic contaminants, Ram et al teaches that the amount and rate at which molecules may be adsorbed depends on the rate at which they contact the surface of the adsorbent particles and the speed with which they diffuse into particles after contact, which is related to the size of the particles. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have optimized the amount and rate at which the contaminants are adsorbed through the process of routine experimentation by controlling the size of the particles as well as the pore size. With regard to the limitation that the enclosed space is a housing surrounding a disk drive, Ram et al teaches that the adsorbents are useful to protect electronic equipment. Therefore, it would have been obvious to have employed the adsorbent material to protect the enclosed space around a disk drive.

5. Ram et al differs from the claimed invention because it does not disclose that a single layer of adsorbent has an asymmetric structure. Shih teaches that adsorbent materials having an asymmetric structure may be selected in order to form an adsorbent which selectively adsorbs particular materials. See col. 2, lines 37-49. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have employ adsorbent materials having an asymmetric structure as taught by Shih. One of ordinary skill in the art would have been motivated to employ adsorbent materials having an asymmetric structure as taught by Shih in order to form an adsorbent material which was able to selectively adsorb particular materials. Since the adsorbent particles themselves are asymmetrical the single layer structure comprising the particle would also necessarily have an asymmetric structure.

6. Claims 11, 15, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ram in view of Shih, as applied to claims 1-9, 12-14, 16-17, 20 above, and further in view of Dauber et al, U.S. Patent No. 5,593,482. Ram et al discloses an adsorbent material as set forth above. Ram et al differs from the claimed invention because Ram et al does not disclose an asymmetric structure, a structure comprising multiple layers or a structure comprising filter layers. Dauber et al teaches that adsorbent materials may be formed into multi-layered structures which may further comprise filter materials. Since the layers are all different the structure would inherently be asymmetric. Dauber teaches that incorporating the filter materials enhances the ability of the adsorbents to further entrap particulate materials. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated multiple layers including filter layers into the adsorbent of Ram. One of ordinary skill in the art would have been motivated to employ filter layers in order to allow particles to be trapped and filtered.

7. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth M. Cole whose telephone number is (571) 272-1475. The examiner may be reached between 6:30 AM and 6:00 PM Monday through Wednesday, and 6:30 AM and 2 PM on Thursday.

Mr. Terrel Morris, the examiner's supervisor, may be reached at (571) 272-1478.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

The fax number for all official faxes is (703) 872-9306.



Elizabeth M. Cole  
Primary Examiner  
Art Unit 1771

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